

Atty's 22974

Pat. App. Not known - US phase of PCT/EP03/01814

Amended Patent Claims:

1. (original) A method of treating alloyed carbon-containing-iron melts for the production of steel, whereby in a metallurgical vessel, a carbon-containing iron melt is subjected to a decarburization reaction by the addition of oxygen and a part of the metallic alloying elements are slagged, whereby the metal melt is withdrawn from the metallurgical vessel while the slag remains unreduced in the metallurgical vessel and then the metallurgical vessel is filled with a new charge of the iron melt and subjected anew to a decarburization process, characterized in that without intermediate slag removal, the slag is increasingly saturated with metal oxides which derive from a plurality of melts subjected one after the other to decarburization processes and which increasingly counteracts a slagging of the metallic alloying elements.

2. (original) The method according to claim 1 characterized in that at least 3 to 4 decarburization processes are carried out in succession.

3. (currently amended) The method according to claim 1 ~~ex-2~~ characterized in that after the saturation level of the slag is reached or the slag reaches approximately the saturation level, the slag is reduced and only then is slag removed.

4. (currently amended) The method according to ~~one of~~
~~claims 1 to 3~~ claim 1 characterized in that during the
decarburization processes the slag is strongly mixed with the melt.

5. (currently amended) The method according to ~~one of~~
~~claims 1 to 4~~ claim 1 characterized in that with a chromium-
containing steel melt, the slag is increasingly saturated with
chromium oxide which results during the decarburization processes
from the incomplete reduction of chromium by carbon and after
reaching a saturation level or approximately a saturation level,
the slag is reduced with a reducing agent for chromium oxide,
especially FeSi and then the reduced slag is tapped off.

6. (original) The method according to claim 5
characterized in that as a result of reduction of chromium oxide in
the slag with carbon in the melt bath, a strong agitation of the
melt bath results.